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Terms: **patno=6054872** ([Edit Search](#))

997035 (08) 6054872 April 25, 2000

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT
6054872

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April 25, 2000

Semiconductor integrated circuit with mixed gate array and standard cell

REISSUE: Reissue Application filed Sep. 27, 2001 (O.G. Jan. 29, 2002) Ex. Gp.: 2819; Re. S.N. 09/963,735, (O.G. January 29, 2002)

INVENTOR: Fudanuki, Nobuo, Tokyo, JP; Sei, Toshikazu, Tokyo, JP

APPL-NO: 997035 (08)

FILED-DATE: December 23, 1997

GRANTED-DATE: April 25, 2000

PRIORITY: December 27, 1996 - 8-351360, Japan (JP); December 12, 1997 - 9-343278, Japan (JP)

ASSIGNEE-AT-ISSUE: Kabushiki Kaisha Toshiba, Kawasaki, JP

ASSIGNEE-AFTER-ISSUE: May 19, 1998 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., KABUSHIKI KAISHA TOSHIBA 72 HORIKAWA- CHO, SAIWAI-KU, KAWASAKI-SHI KANAGAWA-KE N JAPAN, Reel and Frame Number: 009182/0483

LEGAL-REP: Foley & Lardner

PUB-TYPE: April 25, 2000 - Utility Patent having no previously published pre-grant publication (A)

PUB-COUNTRY: United States (US)

US-MAIN-CL: 326#39


US-ADDL-CL: 326#101

CL: 326

SEARCH-FLD: 326#39, 326#41, 326#101.-103, 327#403.-405, 327#565, 327#566

IPC-MAIN-CL: H 03K019#177

PRIM-EXMR: Tokar, Michael


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Selected file: PLUSPAT

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Query/Command : us6054872/pn

** SS 1: Results 1

Search statement 2

Query/Command : prt fu legalall max

1 / 1 PLUSPAT - @QUESTEL-ORBIT
PN - US6054872 A 20000425 [US6054872]
TI - (A) Semiconductor integrated circuit with mixed gate array and standard cell
PA - (A) TOKYO SHIBAURA ELECTRIC CO (JP)
PAO - Kabushiki Kaisha Toshiba, Kawasaki [JP]
IN - (A) SEI TOSHIKAZU (JP); FUDANUKI NOBUO (JP)
AP - US99703597 19971223 [1997US-0997035]
PR - JP35136096 19961227 [1996JP-0351360]
JP34327897 19971212 [1997JP-0343278]
IC - (A) H03K-019/177
EC - H03K-019/173C1
PCL - ORIGINAL (O) : 326039000; CROSS-REFERENCE (X) : 326101000
DT - Basic
CT - US4207556; US4750027; US4809029; US4811073; US4949275; US4967100; US4969029; US5051917; US5155390
STG - (A) United States patent
AB - The present invention relates to a semicustom ASIC, in which a plurality of standard cell rows are arranged. The standard cell and basic cells used in a gate array are mixedly mounted on the same chip. Respective cell rows are composed of a plurality of standard cells with an empty space. The basic cells used in the gate array are arranged as dummy cells. They are disposed in wiring channel regions between the plurality of standard cells or empty spaces between the standard cells in a same standard cell row. Only the latter may be used if the channelless type standard cells are employed. A changing request can be satisfied by forming metal wiring layers on the gate array basic cells when there is a necessity of changing circuit design or pattern. Since the circuit can be modified without change of gate polysilicon regions and source/drain regions underlying the metal wiring layers, design and manufacture can be effected in a short period of time.
UP - 2000-17

1 / 1 LGST - @LEGSTAT
PN - US 6054872 [US6054872]
AP - US 997035/97 19971223 [1997US-0997035]
DT - US-P

7/07/03

US 6,054,872

09/963735

ACT - 19971223 US/AE-A
APPLICATION DATA (PATENT)
US 997035/97 19971223 [1997US-0997035]

20000425 US/A
PATENT

20020129 US/RF
REISSUE APPLICATION FILED
20010927

UP - 2002-06

1 / 1 CRXX - @CLAIMS/RRX
AN - 3313811
PN - 6,054,872 A 20000425 [US6054872]
PA - Toshiba Corp JP
PT - E (Electrical)
ACT - 20010927 REISSUE REQUESTED
ISSUE DATE OF O.G.: 20020129
REISSUE REQUEST NUMBER: 09/963735
EXAMINATION GROUP RESPONSIBLE FOR REISSUEPROCESS: 2819

Reissue Patent Number:

UP - 2002-05
UACT- 2002-01-29

Query/Command : fam us6054872/pn

1 Patent Groups
** SS 2: Results 2

Search statement 3

Query/Command : famstate nonstop

1 / 2 PLUSPAT - @QUESTEL-ORBIT - image
PN - JP10242289 A 19980911 [JP10242289]
STG - (A) Doc. Laid open to publ. Inspec.
TI - (A) INTEGRATED CIRCUIT AFTER STANDARD CELL SYSTEM
PA - (A) TOKYO SHIBAURA ELECTRIC CO
PA0 - (A) TOSHIBA CORP
IN - (A) FUDANUKI NOBUO; SEI TOSHIKAZU
IC - (A) H01L-021/82 H01L-027/118
AP - JP34327897 19971212 [1997JP-0343278]
PR - JP34327897 19971212 [1997JP-0343278]
JP35136096 19961227 [1996JP-0351360]

2 / 2 PLUSPAT - @QUESTEL-ORBIT
PN - US6054872 A 20000425 [US6054872]
STG - (A) United States patent
TI - (A) Semiconductor integrated circuit with mixed gate array and

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US 6,054,872

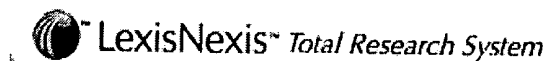
09/963735

standard cell
PA - (A) TOKYO SHIBAURA ELECTRIC CO (JP)
PAO - Kabushiki Kaisha Toshiba, Kawasaki [JP]
IN - (A) SEI TOSHIKAZU (JP); FUDANUKI NOBUO (JP)
IC - (A) H03K-019/177
AP - US99703597 19971223 [1997US-0997035]
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PCL - ORIGINAL (O) : 326039000; CROSS-REFERENCE (X) : 326101000
DT - Basic
UP - 2000-17

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AP - US 997035/97 19971223 [1997US-0997035]
DT - US-P
ACTE- 19971223 US/AE-A
APPLICATION DATA (PATENT)
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UP - 2002-06

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